| A | | | | | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--|--|--|--|--|--|
| A. CLASSII IPC 7 | FICATION OF SUBJECT MATTER H01L29/872 H01L29/07 | | | | | | | | |
| According to | International Patent Classification (IPC) or to both national classific | ation and IPC | | | | | | | |
| B. FIELDS SEARCHED | | | | | | | | | |
| Minimum do IPC 7 | cumentation searched (classification system followed by classification $H01L$. | on symbols) | | | | | | | |
| Documentat | ion searched other than minimum documentation to the extent that s | such documents are included in the fields se | earched . | | | | | | |
| Electronic da | ata base consulted during the International search (name of data ba | se and, where practical, search terms used |) | | | | | | |
| EPO-In | ternal, PAJ | | | | | | | | |
| C. DOCUME | ENTS CONSIDERED TO BE RELEVANT | | | | | | | | |
| Category ° | Citation of document, with indication, where appropriate, of the rel | evant passages | Relevant to claim No. | | | | | | |
| A | US 4 117 507 A (PACOR BRUNO) 26 September 1978 (1978-09-26) abstract; figures 4,6 | | 1-12 | | | | | | |
| A. | WO 83/00776 A (ERICSSON TELEFON A 3 March 1983 (1983-03-03) abstract; figures 1,3 | 1-12 | | | | | | | |
| A | US 3 649 887 A (KELLER JEAN-PAUL 14 March 1972 (1972-03-14) column 1, line 48 - column 2, lin figure 1 | 1–12 | | | | | | | |
| A | JP 58 161378 A (TOKYO SHIBAURA DE 24 September 1983 (1983-09-24) abstract | ENKI KK) | 1-12 | | | | | | |
| | | | | | | | | | |
| Furti | her documents are listed in the continuation of box C. | χ Patent family members are listed | in annex. | | | | | | |
| "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed | | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family | | | | | | | |
| | actual completion of the International search September 2004 | Date of mailing of the international sea 17/09/2004 | rch report | | | | | | |
| Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Rijswljk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016 | | Authorized officer Franche, V | | | | | | | |

IN I ERNATIONAL SEARCH REFURI

Information on patent family members

IB2004/050765

| Patent document cited in search report | | Publication date | | Patent family member(s) | Publication date |
|-------------------------------------------|-----|------------------|----------------|-------------------------------------|----------------------------------------|
| US 4117507 | A | 26-09-1978 | IT IT BR | 1063262 B 1063522 B 7703972 A | 11-02-1985 11-02-1985 18-04-1978 |
| | | | DE | 2728144 A1 | 05-01-1978 |
| | | | FR | 2356275 A1 | 20-01-1978 |
| | | | GB JP | 1525556 A 53019771 A | 20-09-1978 23-02-1978 |
| | | | SE | 422640 B | 15-03-1982 |
| | | | SE | 7707068 A | 23-12-1977 |
| | | • | BR | 7703967 A | 16-05-1978 |
| | | | DE | 2728083 A1 | 12-01-1978 |
| | | | FR | 2356274 A1 | 20-01-1978 |
| | | | GB | 1525557 A | 20-09-1978 |
| | | | JP | 53019772 A | 23-02-1978 |
| | | | SE | 422641 B | 15-03-1982 |
| | | | SE | 7707251 A | 26-12-1977 |
| WO 8300776 | Α | 03-03-1983 | SE | 427598 B | 18-04-1983 |
| | | | DE | 3264667 D1 | 14-08-1985 |
| | | | DE | 86210 T1 | 06-12-1984 |
| | | | DK | 179383 A ,B, | 22-04-1983 |
| | | | EP | 0086210 A1 | 24-08-1983 |
| | | | FI IT | 831227 A ,B, 1207305 B | 12-04-1983 |
| | | | NO | 1207305 B 831436 A ,B, | 17-05-1989 22-04-1983 |
| | | | SE | 8105040 A ,B, | 26-02-1983 |
| | | • | MO | 8300776 A1 | 03-03-1983 |
| US 3649887 | Α | 14-03-1972 | BE | 754677 A1 | 18-01-1971 |
| | - • | 1. 55 15/2 | DE | 2036686 A1 | 04-03-1971 |
| • | | | FR | 2058210 A5 | 28-05-1971 |
| | | | GB | 1285488 A | 16-08-1972 |
| | | | JP | 49013436 B | 30-03-1974 |
| | | • | MY | 43373 A | 31-12-1973 |
| | | | NL | 7011785 A | 15-02-1971 |
| | | | SE | 371044 B | 04-11-1974 |
| | | | YU | 203270 A ,B | 31-08-1977 |
| JP 58161378 | Α | 24-09-1983 | NONE | | |